IS 5085 (1976): Berets, Wool, Knitted [TXD 10: Hosiery]

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IS : 5085 - 1976
(Reaffirmed 2003)

Indian Standard

SPECIFICATION FOR BERETS, WOOL, KNITTED

(First Revision)

First Reprint MARCH 1993

UDC 687.431:687.33

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 4

December 1976

Indian Standard

SPECIFICATION FOR BERETS, WOOL, KNITTED

(First Revision)

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Indian Standard

SPECIFICATION FOR BERETS, WOOL, KNITTED

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 10 August 1976, after the draft finalized by the Hosiery Sectional Committee had been approved by the Textile Division Council.

0.2 Berets covered by this standard are used by Defence and other para-military forces as headwear.

0.3 This standard, first published in 1969, has been revised to make it up-to-date. In this standard particulars of satin cloth, braided draw tape and leather head bands and also details of packing have been included. Four additional sizes of berets have been incorporated. Berets of sizes 1, 3, 5, 7 and 9 are preferred sizes and other sizes namely 2, 4, 6 and 8 would be withdrawn in due course.

0.4 Assistance has been derived in the formulation of this standard from IND/TC/4052(j) 'specification for berets, knitted, one-piece and berets, knitted, one-piece, dual shade; issued by the Ministry of Defence, Government of India.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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1. SCOPE

1.1 This standard prescribes the constructional details and other particulars of nine sizes of knitted berets, one-piece, made from woollen yarn.

1.2 This standard does not prescribe general appearance, lustre, feel, type of finish and shade of berets (*see also* **5.3**).

*Rules for rounding off numerical values (*revised*).

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions as given in IS:3596-1967* shall apply.

3. NOMENCLATURE

3.1 The nomenclature of various components of berets shall be as shown in Fig. 1.

4. MANUFACTURE

4.1 Yarn — The yarn used for knitting the berets shall be spun on woollen system from wool of not less than 64s grade conforming to IS:5910-1970†. The approximate count of yarn shall be 75 tex (Nm 13).

4.2 Berets — In shape the berets shall be as shown in Fig. 1. These shall be plain knitted by using two strands of yarn on a suitable circular machine on 110 to 125 needles depending upon the size of the berets so as to obtain the required shape and dimensions after milling and finishing. The starting and finishing loops of the knitted fabrics shall be linked together by means of yarn of same type as used for knitting berets.

NOTE — In the case of dual shade of berets, the bevel portion shall be knitted with yarn having different shade from the crown portion and then linked with the crown.

4.2.1 *Lining* — The berets shall be lined with rayon satin cloth conforming to variety 5 of IS:1453-1974‡ and shall have an interlining of polyethylene film of minimum 40 microns thickness (*see also* IS:2508-1963§) covering completely the crown and the bevel portions (*see* Fig. 1). The lining of crown shall be in one piece while of bevel in two pieces. The crown of the beret shall be circular in shape. Unless otherwise stated, the satin cloth shall be of black shade.

NOTE — Sulphur dyes shall not be used for obtaining black shade.

4.2.2 *Binding* — The nylon tape conforming to variety 3 of IS:4228-1967‖ or chrome tanned leather binding conforming to the requirements given in **A-1** shall be attached to the bottom edge of the bevel by one rown of stitches, turned over and joined to the body by an additional row of stitches. The channel so formed shall be 13 mm and provided with a braided art silk draw tape conforming to the requirements given in **A-2** approximately 18 cm longer than the circumference of the head band. The

*Glossary of terms relating to hosiery.
†Fineness grades of wool.
‡Specification for rayon satin (*first revision*).
§Specification for low density polyethylene films.
‖Specification for nylon tapes for aeronautical purposes.

two ends of the draw tape shall be tied to form a bow. The two ends of the leather binding or nylon tape shall overlap at the back to form a triangular slit which shall be secured by double row of stitches (*see* Fig. 1). Unless otherwise stated, the nylon tape and draw tape shall be of black shade.

NOTE — Sulphur dyes shall not be used for obtaining black shade.

4.2.3 *Eyelets* — Two metal eyelets of 6 mm size shall be fitted at the back approximately 25 mm apart and 20 mm above the bottom edge of the beret. These shall be well covered on the inside with a leather piece stitched to the bevel lining, and having holes punched corresponding to eyelet holes. Unless otherwise stated the eyelets shall be enamelled black.

4.2.4 *Slot* — A slot made on a separate piece of any suitable woollen material shall be tucked by hand to the bevel lining in the front side of each beret (*see* Fig. 1). This slot is made for permanent fixation in the desired position at the consumer end.

4.3 Stitching

4.3.1 All the sewings shall be done with lock stitches.

4.3.2 The cotton sewing thread of 16 tex × 6 ($36^s/6$ cotton count) and of same shade as that of berets preferably conforming to IS: 1720-1969* shall be used. The stitches shall be of even tension throughout and all loose-ends securely fastened off. The number of stitches shall not be less than 4 per centimetre.

4.4 Freedom from Defects — The berets shall be reasonably free from manufacturing defects, sewing defects, chemical damages and dyeing defects such as uneven dyeing and streakiness.

5. REQUIREMENTS

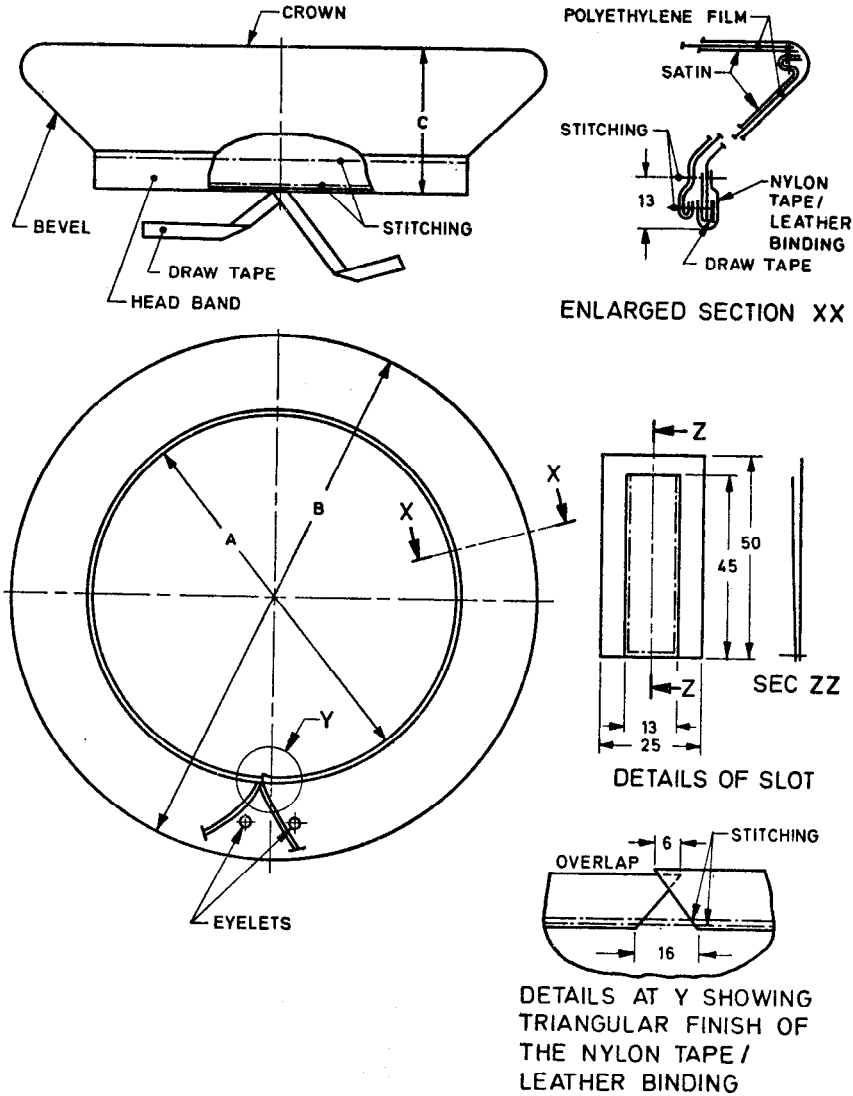
5.1 Dimensions — The dimensions of the various sizes of berets shall conform to Table 1.

5.2 The berets shall also conform to the requirements as given in Table 2.

5.3 Sealed Sample — If, in order to illustrate or specify indeterminable characteristics, such as general appearance, colour, type of finish and feel, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

5.3.1 The custody of sealed sample shall be a matter of prior agreement between the buyer and the seller.

*Specification for cotton sewing threads (*first revision*).



All dimensions in millimetres.

FIG. 1 BERET, WOOL, KNITTED

TABLE 1 DIMENSIONS OF BERETS

(*Clause* 5.1 and Fig. 1)

All dimensions in centimetres.

SIZE No.	HEAD BAND		DIAMETER OF CROWN	DEPTH OF BEVEL TO SEAM ON LEATHER BINDING OR NYLON TAPE ALL AROUND
	Diameter	Circum-ference		
	A	—	*B*	*C*
1	15·25	48·5	23·5	5
2*	15·90	50·5	24·0	5
3	16·50	52·5	25·0	5
4*	17·00	54·5	25·5	5
5	17·75	56·5	26·0	5
6*	18·35	58·5	26·5	5
7	19·00	60·5	27·5	5
8*	19·60	62·5	28·0	5
9	20·25	64·5	28·5	5
TOLERANCE	±0·50	±1·0	±0·5	±0·3
METHOD OF TEST	B-1	B-1	B-1	B-1

*Non-preferred sizes.

6. MARKING

6.1 A suitable cloth label marked with the following information shall be securely attached to each beret at the centre of crown on the inner side of the lining:

a) Size;

b) Manufacturer's name, initials or trade-mark, if any; and

c) Year of manufacture, if required.

6.1.1 The berets may also be marked with the ISI Certification Mark.

NOTE—The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. The ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

TABLE 2 REQUIREMENTS OF BERETS

(*Clause* 5.2)

Sl No.	Characteristic	Requirement	Method of Test
(1)	(2)	(3)	(4)
i)	Mass, g/m²	510 ± 35	IS:1964-1970*
ii)	Dimensional change (due to relaxation), percent	3·0 *Max*	B-2
iii)	Colour fastness to:		
	a) Light (*see* Note)	4 or better	IS:686-1957† or IS:2454-1967‡
	b) Washing	4 or better	IS:687-1966§
	c) Dry-cleaning	4 or better	IS:4802-1968‖
	d) Perspiration	4 or better	IS:971-1956¶
	e) Hot pressing	4 or better	IS:689-1956**

NOTE — In case of dispute, colour fastness to light shall be determined by the method prescribed in IS:686-1957†.

*Methods for determination of weight per square metre and weight per linear metre of fabrics (*first revision*).

†Method for determination of colour fastness of textile materials to daylight.

‡Method for determination of colour fastness of textile materials to artificial light (xenon lamp).

§Method for determination of colour fastness of textile materials to washing: Test 1 (*first revision*).

‖Method for determination of colour fastness of textile materials to dry-cleaning.

¶Method for determination of colour fastness of textile materials to perspiration.

**Method for determination of colour fastness of textile materials to hot pressing.

7. PRESERVATION

7.1 The berets shall be preserved with a heavy dose of napthalene (with a minimum of 5 kg per cubic metre of the volume of bale or case).

8. PACKING

8.1 The berets of the same size and shade shall be packed together in a bale/case in accordance with IS:2518-1964* or IS:3353-1966† as the case may be.

*Code for seaworthy packaging of wool hosiery yarn and goods.

†Code for inland packing of wool hosiery yarn and goods.

8.2 Alternatively these may also be packed by the methods given below when specifically agreed to between the buyer and the seller:

a) *Bale Packing* — Each beret shall be wrapped in polyethylene bag. Ten berets paired by facing head band to head band, shall then be tied together to form a bundle. Six such bundles shall be placed side by side and arranged in such a manner so as to cover a rectangular area of about 80 cm × 60 cm. Twentyfour bundles (240 berets) shall be kept in four tiers and accommodated within the same base area. A thin rectangular strawboard of similar size shall be placed in between two tiers to avoid direct contact. The strawboards used for the bottom, top and the sides shall be of thicker type to provide adequate support. All strawboards shall be with rounded corners. The entire assembly shall be wrapped with one inner layer of polyethylene film (*see* IS:2508-1963*) of 40 microns thickness or alternatively kraft paper (*see* IS:1397-1967†) and an outer layer of cloth heavy cee (*see* IS:3751-1966‡) or equivalent hessian cloth to form a bale of gross mass of approximately 35 kg. The bales suitably stitched, shall be made secured by fastening with steel strips (or hoops) or cordages of sufficient strength.

b) *Case Packing* — Each beret shall be wrapped in polyethylene bag. Ten berets paired by facing head band to head band shall then be tied together to form a bundle. The bundles shall be wrapped with a layer of polyethylene film of minimum 40 microns thickness (*see* IS:2508-1963*). A suitable number of such bundles shall be packed in wooden cases lined with waterproof packing paper (*see* IS:1398-1968§) or polyethylene film of same requirements as given above.

9. SAMPLING

9.0 The sampling procedure given below shall give desired protection to the buyer and the seller provided the lot submitted for inspection is homogeneous. To achieve this the manufacturer shall maintain a system of process control at all stages of manufacture and shall ensure that the berets tendered by him for inspection comply with the requirements of this standard in all respects.

NOTE — For effective process control, the use of statistical quality control techniques is recommended and a helpful guidance may be obtained in this respect from IS:397 (Part I)-1972||.

*Specification for low density polyethylene films.

†Specification for kraft paper (*first revision*).

‡Specification for heavy cee cloth.

§Specification for packing paper, waterproof, bitumen laminated (*first revision*).

||Method for statistical quality control during production: Part I Control charts for variables (*first revision*).

9.1 In any consignment all the berets of the same size and colour delivered to a buyer against a despatch note shall constitute a **lot**.

9.1.1 The conformity of the lot to the requirements of this specification shall be determined on the basis of the tests carried out on the samples selected from it.

9.2 Unless otherwise agreed to between the buyer and the seller, the number of berets, depending upon the size of the lot, shall be selected at random in accordance with col 2 of Table 3.

9.3 The sample size and the criteria for conformity for various characteristics shall be as follows:

Characteristic	*Sample Size*	*Criterion for Conformity*
Freedom from defects and dimensions	All the berets selected according to col 2 of Table 3	Non-conforming berets not to exceed the corresponding number given in col 3 of Table 3
Specification for wool, mass, dimensional change, colour fastness to various agencies (except light)	All the berets selected according to col 4 of Table 3	Non-conforming berets not to exceed the corresponding number given in col 5 of Table 3
Colour fastness to light	One in case of lot size of 500 berets, and two above that	Each beret to satisfy the specified requirement

TABLE 3 NUMBER OF BERETS TO BE SELECTED FROM A LOT AND PERMISSIBLE NUMBER OF NON-CONFORMING BERETS

(*Clauses* 9.2 *and* 9.3)

Number of Berets in the Lot	Non-destructive Testing		Destructive Testing	
	Number of Berets to be Selected	Permissible Number of Non-conforming Berets	Number of Berets to be Selected	Permissible Number of Non-conforming Berets
(1)	(2)	(3)	(4)	(5)
Up to 300	10	1	2	0
301 ,, 500	20	1	3	0
501 ,, 1 000	30	2	5	0
1 001 ,, 3 000	50	3	8	0
3 001 and above	80	5	13	1

APPENDIX A

(*Clause* 4.2.2)

REQUIREMENTS FOR BINDING AND DRAW TAPE

A-1. CHROME TANNED LEATHER BINDING

A-1.1 The head bands shall be manufactured from goat skin of medium size and good substance. It shall be tanned and dyed black. The finish shall be glazed and grains shall be plain. No loose textured or raggy leather shall be used for head bands. The head bands shall be cut to the nominal dimensions given below:

Length	1·5 cm more than the circumference of beret
Width	2·5 cm
Thickness	0·5 to 1·0 mm

A-2. BRAIDED ART SILK DRAW TAPE

A-2.1 The braided art silk (viscose rayon) draw tape shall conform to the following particulars.

Count of yarn (approx)	16^s (37 tex)
Number of threads	49
Width, mm	10 ± 1
Weight (g/100 m)	185 ± 10 percent
Breaking load (25 cm between grips), *Min*	22 kgf (215 N*)
Construction	Flat braided

APPENDIX B

(*Tables* 1 *and* 2)

METHODS OF TEST

B-1. DIMENSIONS

B-1.1 Take a beret constituting the test sample (*see* **9.3**). Lay it flat on a horizontal surface. Remove all creases and wrinkles without distorting it. Measure correct to the nearest millimetre the dimensions given in Table 1.

*1 Newton is approximately equal to 0·102 kgf.

NOTE — While determining diameter of the head band or crown, two measurements shall be taken along the lines which intersect at the centre at 90° to each other.

B-2. DIMENSIONAL CHANGE (DUE TO RELAXATION)

B-2.1 Marking of Test Specimens — Take one of the pieces from the test sample (*see* **9.3**). Mark centrally on it by means of indelible ink or a fast dyed cotton sewing thread a square area of 15×15 cm. Spread this test specimen on a flat smooth surface, carefully removing by hand all creases and wrinkles. Within this area, mark six pairs of marks, three pairs each in the horizontal and vertical directions in such a way that the distance between each pair of marks is the same.

B-2.2 Procedure

B-2.2.1 Place test specimen on a glass plate and carefully remove by hand all creases and wrinkles without stretching the test specimen and place the other glass plate on the test specimen. Measure correct to the nearest millimetre, the distance between each pair of marks separately.

B-2.2.2 Lay the test specimen flat in a water-tight tray of suitable size and of depth 10 cm, *Min*. Soak it under a head of 25 mm of water containing 0·5 percent suitable wetting agent at 30 to 35°C for 2 hours. Drain out the water and remove the test specimen carefully so that it is not stretched and lay it flat on a smooth surface. Remove the excess of water by absorbent material and dry it at room temperature.

NOTE — Removal of excess water by wringing the test specimen is not permitted.

B-2.2.3 After drying, condition the test specimen to moisture equilibrium at the room temperature. Place it on the glass plate, carefully remove all wrinkles and creases and place the other glass plate on the test specimen. Measure correct to the nearest millimetre, the distance between each pair of marks separately.

B-2.3 Calculation

B-2.3.1 Calculate separately the percentage of dimensional change both in the horizontal and vertical directions by the following formula:

$$S = \frac{a-b}{a} \times 100$$

where

S = dimensional change (due to relaxation), percent;

a = the distance between a pair of marks (along the horizontal or vertical direction as the case may be) before soaking; and

b = the distance between the same pair of marks after soaking.

B-2.3.2 Calculate separately the dimensional change (due to relaxation) of all the three lines in the horizontal direction as well as in the vertical direction. Calculate average dimensional change (due to relaxation) in each direction.

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Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 1 AUGUST 1982

TO

IS : 5085-1976 SPECIFICATION FOR BERETS, WOOL, KNITTED

(First Revision)

[This amendment is being carried out to specify the breaking load value of hosiery yarn used for knitting berets as well as to provide for an alternative in the positions of eye-lets from back to right hand side of the bevel in case of berets required by the Ministry of Defence.]

Alterations

(*Page* 4, *clause* **4.1**) — Substitute the following for the existing clause:

'**4.1 Yarn** — The yarn used for knitting the berets shall be spun on woollen system from wool of not less than 64s grade (*see* Note 1). The approximate count of yarn shall be 74 tex (Nm 13s) and the single thread breaking load value shall not be less than 1 715 Nm (175 g) (*see* Note 2).

NOTE 1 — The specifications for 64s grade wool shall conform to IS: 5910-1977 †.

NOTE 2 — The breaking load of knitting yarn used in the manufacture of berets shall be determined on a test length of 500 mm using a constant rate of traverse type machine, having a traverse of 300±15 mm per minute (*see also* IS : 1670-1970¶). '

(*Page* 4, *foot-note with* ' † ' *mark*) — Substitute the following for the existing foot-note:

' †Fineness grades of wool (*first revision*). '

Addenda

(*Page* 4, *foot-note with* ' ‖ ' *mark*) — Add the following new foot-note after ' ‖ ' mark:

' ¶Method for determination of breaking load, elongation at break and tenacity of yarns (*first revision*). '

(*Page* 5, *clause* **4.2.3**) — Add the following new note after **4.2.3**:

' NOTE — If agreed to between the buyer and the seller, the eyelets shall be provided at the right hand side of the bevel. '

(TDC 15)

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